

## **REMARKS**

### **I. Introduction**

Claims 18 to 34 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II. Amendment to Claim 24**

As an initial matter, the Examiner will note that claim 24 has been amended herein without prejudice to correct a typographic error to change "include" to --includes--.

### **III. Rejection of Claims 18, 20, 23 to 27, 29 to 31, and 34 Under 35 U.S.C. §103(a)**

Claims 18, 20, 23 to 27, 29 to 31, and 34 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,337,611 ("Fleming et al.") and U.S. Patent Application Publication No. 2003/0078681 ("Dubois et al."). It is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render unpatentable the present claims for at least the following reasons.

Claim 18 as amended herein without prejudice recites that **a method includes: after generating an electronic specification of a flaw, manufacturing a test specimen, and that for each point of the point pattern, a microcrack in the test specimen generated at a corresponding position to form a microcrack field representing the flaw.** Support for these amendments may be found, for example, on page 3, lines 4 to 8 of the Specification.

Neither Fleming et al. nor Dubois et al. discloses, or even suggests, at least the above-mentioned feature of claim 18. On page 2, paragraph 1., the Office Action admits that Fleming et al. does not disclose the above-mentioned feature. Regarding Dubois et al., this reference describes a system for testing and/or detecting a physical attribute in an area of a manufactured object, in which a sonic energy signal generated by a sonic energy signal generator is measured by a sonic energy signal measuring device (see paragraph [0025]). In addition, as indicated in paragraphs [0027], [0054] and [0058], the system may access a representation of

the manufactured object, such as a CAD representation, in order to derive an optimized operating characteristic of the sonic energy signal generator. However, contrary to the assertions appearing on page 2, paragraph 1. of the Office Action, it is nowhere inherent in the disclosure of Dubois et al. that the CAD representation of the manufactured object includes a flaw in the manufactured object or is equivalent to an electronic specification of the flaw. Dubois et al. merely indicates that the CAD representation is utilized for optimizing the operating characteristic of the sonic energy signal generator. In addition, paragraphs [0115] and [0118], which, the Office Action alleges, provide evidence for the CAD representation inherently including a flaw and being equivalent to an electronic specification of a flaw, only indicate that a method for testing a physical attribute in an area of a manufactured object includes generating a sonic energy signal, measuring the sonic energy signal and producing a measured signal, and that the method allows for flaws and defects to be detected more accurately. Thus, it cannot be said that the CAD representation of Dubois et al. constitutes a disclosure of an electronic specification of a flaw. Furthermore, the Office Action provides absolutely no basis whatsoever for the statement on page 2, paragraph 1., “[t]he manufactured object with the flaw is **constructed** based on the representation of the manufactured object (18).” (Emphasis included in the original). As set forth above, Dubois et al. only indicates that a representation of the manufactured object is used for optimizing the operating characteristic of a sonic energy signal generator. Accordingly, it is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render claim 18 unpatentable for at least these reasons.

Claims 25, 26 and 29 include features analogous to claim 18 and have been amended in a manner analogous to claim 18. In addition, claim 30 includes features analogous to claim 18. Accordingly, it is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render claims 25, 26, 29 and 30 unpatentable for at least the reasons set forth above.

As for claims 20, 23 and 24, claim 27, and claims 31 and 34, which respectively depend from, and therefore include all of the features of, claims 18, 26 and 30, it is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render these dependent claims unpatentable for at least the reasons set forth above.

As for claims 20, 27 and 31, it is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render these claims unpatentable for the following additional reasons. Neither Fleming et al. nor Dubois et al. discloses, or even suggests, the feature of these claims that a largest dimension of the microcracks is smaller than a wavelength used for recording the ultrasonic signals (for an ultrasonic test). Regarding the three passages in Fleming et al. cited by the Office Action in support of the rejection of the above claims, column 4, lines 39 to 55 merely relates to the manipulation of a skew angle of an ultrasonic transducer, and not to the wavelength of ultrasonic signals; column 5, lines 45 to 68 merely relates to the skew angle of the transducer and a RAM unit used to store the data obtained by the transducer, and not to the wavelength of ultrasonic signals; and column 6, lines 1 to 59 basically relates to how data from the transducer is stored in the RAM, and not to the wavelength of ultrasonic signals. Furthermore, Dubois et al. is neither relied upon for disclosing or suggesting the above-mentioned feature, nor does Dubois et al. disclose or suggest the above-mentioned feature. Accordingly, it is respectfully submitted that the combination of Fleming et al. and Dubois et al. does not render unpatentable claims 20, 27 and 31 for these additional reasons.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

#### **IV. Rejection of Claims 19 and 28 Under 35 U.S.C. § 103(a)**

Claims 19 and 28 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Fleming et al., Dubois et al. and German Patent Application Publication No. 100 15 702 ("Wienkamp et al."). It is respectfully submitted that the combination of Fleming et al., Dubois et al. and Wienkamp et al. does not render these claims unpatentable for at least the following reasons.

Claim 19 depends from claim 18, and claim 28 depends from claim 26. As set forth above, the combination of Fleming et al. and Dubois et al. does not disclose, or even suggest, all of the features of claims 18 and 26. In addition, Wienkamp et al. is neither relied upon for disclosing or suggesting, nor does Wienkamp et al. disclose or suggest, the features of claims 18 and 26 not disclosed or suggested by Fleming et al. and Dubois et al. Accordingly, it is respectfully

submitted that the combination of Fleming et al., Dubois et al. and Wienkamp et al. does not render unpatentable dependent claims 19 and 28.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

**V. Rejection of Claims 21, 22, 32 and 33 Under 35 U.S.C. § 103(a)**

Claims 21, 22, 32 and 33 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Fleming et al., Dubois et al. and European Patent Application Publication No. 0 743 128 ("Balickas et al."). It is respectfully submitted that the combination of Fleming et al., Dubois et al. and Balickas et al. does not render these claims unpatentable for at least the following reasons.

Claims 21 and 22 depend from claim 18, and claims 32 and 33 depend from claim 30. As set forth above, the combination of Fleming et al. and Dubois et al. does not disclose, or even suggest, all of the features of claims 18 and 30. In addition, Balickas et al. is neither relied upon for disclosing or suggesting, nor does Balickas et al. disclose or suggest, the features of claims 18 and 30 not disclosed or suggested by Fleming et al. and Dubois et al. Accordingly, it is respectfully submitted that the combination of Fleming et al., Dubois et al. and Balickas et al. does not render unpatentable dependent claims 21, 22, 32 and 33.

In view of the foregoing, withdrawal of this rejection is respectfully requested.

**VI. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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